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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,054	05/22/2006	Jing Tao	CN030026	3524

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EXAMINER

NGUYEN, LINH THI

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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07/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,054	TAO ET AL.	
	Examiner	Art Unit	
	LINH T. NGUYEN	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-17 is/are rejected.
- 7) ☒ Claim(s) 9-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 and 3 recites the limitation "the variation", "the mark runlengths", "the modulation", "the writing parameters", and "the value" in claims 1 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

Claim 3 is objected to because of the following informalities: Claim 3 has method of steps a)-d) but nothing is written in step d). Appropriate correction is required.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 12, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Koda (US Patent Number 5982714).

In regards to claim 1, Koda discloses an optical disc-writing parameters optimizing system, comprising: an acquiring device for acquiring the variation amounts of the mark runlengths (Fig. 5A-C have mark with different runlength); a confirming device for confirming the modulation amounts of the writing parameters (Fig. 6, B-D are modulating for mark in fig. 5—C); and a modulating device for modulating the values of said writing parameters (Fig. 4, Column 7, lines 21-65).

In regards to claim 2, Koda discloses the device according to claim 1, further comprising a judging device for judging whether it is necessary to optimize (Column 6, lines 30-37).

In regards to claim 3, Koda discloses a method for optimizing the optical disc-writing parameters, comprising the following steps: a) acquiring the variation amounts of the mark runlengths (Fig. 4E, and Column 7, lines 15-34); b) confirming the modulation amounts of the writing parameters based on the relationship between the variation

amounts of the mark runlengths and the modulation amounts of the writing parameters (Fig. 4C and 4D; and 34-41); and c) modulating said parameters (Column 8, lines 4-13).
d)

In regards to claim 4, Koda discloses the method according to claim 3, wherein the step (b) further comprising: (b1) confirming the variation amounts of the physical mark lengths based on the relationship between the variation amounts of the mark runlengths (Fig. 5A-C, the mark is the same but the physical length is shorter or longer) and the variation amounts of the physical mark lengths (Fig. 5); (b2) confirming the modulation amounts of the writing parameters based on the relationship between the variation amounts of the physical mark lengths and the modulation amounts of the writing parameters (Fig. 6B-D corresponds to the mark length of 5A-C).

In regards to claim 5, Koda discloses the method according to claim 4, wherein the relationship between the variation amounts of the mark runlengths and the variation amounts of the physical mark lengths in step (b1), comprising: the influence relationship of the variation amounts of the physical mark lengths on the variation amounts of the mark runlengths (Fig. 5 and Column 8, line s51-58).

In regards to claim 6, Koda discloses the method according to claim 5, wherein the influence relationship between the variation amounts of the physical mark lengths on the variation amounts of the mark runlengths comprising: the relationships between

the variation amounts of the physical mark lengths and the variation amounts of the mark runlengths (Fig. 5), as well as the characterization amounts of the influence degrees of the variation amounts of the physical mark lengths on the variation amounts of the mark runlengths (Column 8, lines 51-67).

In regards to claim 7, Koda discloses the method according to claim 6, wherein said characterization amounts of the influence degrees including: the influence coefficients of the variation amounts of the physical mark lengths on the variation amounts of the mark runlengths (Fig. 5).

In regards to claim 8, Koda discloses the method according to claim 3, wherein said writing parameters include a plurality of writing parameters (Figs. 3 and 4).

In regards to claim 12, Koda discloses the method according to claim 3, further comprising a step: writing a random data on said optical disc (Figs. 3-5).

In regards to claim 15, Koda discloses the method according to claim 3, wherein said writing parameters comprise the power of the laser pulses (Fig. 2C).

In regards to claim 16, Koda discloses the method according to claim 3, wherein said writing parameters comprise the starting time and the stopping time of the laser pulses (Fig. 2A).

In regards to claim 17, The method according to claim 3, wherein the square-shaped writing strategy, "dog frame" wave-shaped writing strategy, "1T writing strategy" or "2T writing strategy" are adopted for said optical disc-writing (Figs. 2-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koda in view of Kojima (US Publication Number 20050111314).

In regards to claim 13, Koda discloses everything claimed in claim 3. However, does not disclose the step: comparing the variation amounts of each mark runlength with the predetermined optimization aim, to confirm if the continued optimization is needed.

In the same field of endeavor, Kojima discloses the step: comparing the variation amounts of each mark runlength with the predetermined optimization aim, to confirm if the continued optimization is needed (Paragraph [0105]; if the parameters matches the optimal value is set). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Koda to have compared the amounts of mark to confirm if optimization is need as suggested by Kojima. The

motivation for doing so would have been to control the amount of jitter (abstract).

In regards to claim 14, Koda does not but Kojima discloses the method, further comprising a step: confirming the current parameter value as the parameter value which will be written to optical disc when the continued optimization is not needed (Fig. 14, depending amount of jitter the optimization is needed). The motivation is the same as claim 13 above.

Allowable Subject Matter

Claims 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claim 9, The method according to claim 7, wherein the relationship between the variation amounts of the mark runlengths and the variation amounts of the physical mark lengths includes the following formula: [.times. dPhyL 1 dPhyL 2

dPhyL 3 dPhyL j dPhyL M] = .times. [v 11 v 12 v 13 v 1 .times. j v 1 .times. M v 21
v 22 v 23 v 2 .times. j v 2 .times. M v i .times. .times. 1 v i .times. .times. 2 v i
.times. .times. 3 v ij v iM v N .times. .times. 1 v N .times. .times. 2 v N .times.
.times. 3 v Nj v NM] - 1 [.times. .DeltaMarkRL1 DeltaMarkRL2 DeltaMarkRLi DeltaMarkRLN]

wherein the writing parameters which need optimization are j=1, 2, . . .

M[dPhyL.sub.j represents the variation amount of the physical length of the mark, which is directly influenced by the j.sup.th writing parameter which needs

optimization. ΔmarkRL_i represents the measured i^{th} variation amount of the mark runlength; in the transformation matrix, the coefficient $\text{.nu.}_{\text{sub.ij}}$ is the influence coefficient, which represents the influence of parameter j on mark i , $\text{.nu.}_{\text{sub.ij}} = -j_p + 1$ when parameter j influences mark i directly; $\text{.nu.}_{\text{sub.ij}} = -j_p$ when parameter j does not influence mark i directly; j_p represents the percentage of the numbers of the mark samples influenced directly by the j^{th} writing parameter which needs optimization in the whole mark samples.

Claim 10 depend on claim 9, therefore objected for the same reason.

In regards to claim 11, none of the references alone or in combination discloses the method according to claim 4, wherein the step (b2) comprising the following steps: (b2.1) doing writing experiments with a plurality of the parameter values (P_r) in order to optimize the writing parameter (r); (b2.2) measuring the variation amount ΔMarkRL_s of the length of the mark (s)'s movement, which is influenced directly by the writing parameter (r), to acquire the function relationship $\Delta \text{MarkRL}_s = f_1(P_r)$ between ΔMarkRL_s and the parameter value (P_r); (b2.3) **measuring the variation amount ΔmarkRL_t of the length of the mark (t)'s movement, which is not influenced directly by the writing parameter (r), to acquire the function relationship $\Delta \text{markRL}_t = f_2(P_{\text{sub}.r})$ between ΔmarkRL_t and the parameter value (P_r); (b2.4) subtracting the result of step (b2.3) from the result of step (b2.2), to acquire the relationship $d\text{PhyLr} = \Delta \text{MarkRL}_s - \Delta \text{MarkRL}_t = f_1(P_{\text{sub}.r}) - f_2(P_r) = f_1 - 2(P_r) = f(P_{r0} + dP_r)$ between the variation amount ($d\text{PhyLr}$) of the physical length of the mark and the parameter**

value (Pr) which needs optimization (wherein Pr0 is the original value of the writing parameter(r), dPr is the variation amount of the parameter value).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakano et al and Kato et al disclose an apparatus and method of setting the writing parameters to optimize the recording/reproducing power.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH T. NGUYEN whose telephone number is (571)272-5513. The examiner can normally be reached on 10:00am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
July 17, 2008

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627